Complete Summary

GUIDELINE TITLE

North American Spine Society Phase III: clinical guidelines for multidisciplinary spine care specialists. Spinal stenosis version 1.0.

BIBLIOGRAPHIC SOURCE(S)

North American Spine Society (NASS). Phase III clinical guidelines for multidisciplinary spine care specialists. Spinal stenosis version 1.0. LaGrange (IL): North American Spine Society (NASS); 2002. 91 p. [197 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Spinal stenosis of the lumbar spine

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Anesthesiology
Chiropractic
Family Practice
Internal Medicine
Neurological Surgery

Neurology
Nursing
Orthopedic Surgery
Physical Medicine and Rehabilitation
Psychiatry
Psychology
Radiology
Rheumatology

INTENDED USERS

Allied Health Personnel
Health Care Providers
Nurses
Physicians

GUIDELINE OBJECTIVE(S)

- To provide an educational tool to assist multidisciplinary spine care professionals in improving the quality and efficiency of spine care
- To provide practice parameters to expedite optimum, cost-effective functional recovery from spinal disorders
- To provide clinicians with detailed information concerning the diagnosis and treatment of spinal stenosis of the lumbar spine

TARGET POPULATION

- Adults (18 years or older) with a chief complaint of neurogenic claudication without associated spondylolisthesis

  Note: The patient´s symptoms must have persisted past the 10 to 12 weeks of treatment performed as part of the Phase I treatment algorithm. Furthermore, the nature of the pain and associated patient characteristics (e.g., age) should be more typical of a diagnosis of spinal stenosis than herniated disc.

- Adults (18 years or older) diagnosed with stenosis of the lumbar spine

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnostic Assessments (Initial and Ongoing)

1. History and physical examination
    - Identification of mechanism of injury
    - Correlation of patient´s association of complaint with mechanism of injury
    - Correlation of mechanism of injury and resultant body area(s) of injury
2. Imaging studies
    - Plain X-ray
    - Magnetic resonance imaging (MRI), including gadolinium MRI
    - Computed tomography (CT scan)
    - Myelogram
3. Electrodiagnostic studies (electromyography/evoked potentials)

4. Diagnostic injections
5. Physical capacity evaluation (e.g., range of motion, strength/endurance)
6. Functional capacity evaluation (e.g., isometric, isokinetic, and isoinertial lifting; activities of daily living tests; hand function test; submaximal cardiovascular endurance tests; static positional tolerance)
7. Mental health evaluation

Nonoperative Treatment

1. Nonpharmacologic pain control measures (used mainly in the initial phase of treatment)
    - Activity modification/rest
    - Thermal modalities (application of heat/cold)
2. Nonpharmacologic pain control measures (used in initial, secondary, and/or tertiary phases of specialized care)
    - Patient education
    - Early exercise
    - Manual therapy (e.g., joint mobilization, graded force application, massage)
3. Pharmacologic measures
    - Opioids
    - Nonsteroidal anti-inflammatory drugs (NSAIDs)
    - Muscle relaxants (central nervous system anxiolytics), such as baclofen, carisoprodol, cyclobenzaprine, methocarbamol, orphenadrine, metaxalone, and diazepam
    - Sedatives
    - Antidepressants (e.g., amitriptyline, nortriptyline, doxepin, paroxetine, and maprotiline)
    - Oral corticosteroids
    - Anticonvulsants (e.g., phenytoin, carbamazepine, valproate, gabapentin, lamotrigine)
4. Interventional measures
    - Epidural steroid injections, including selective epidural injections or nerve root blocks
    - Posterior column injections (zygapophysial joint and pars interarticularis)
5. Restoration of function
    - Therapeutic exercise
    - Work hardening, conditioning programs, outpatient rehabilitation
    - Psychosocial interventions
    - Interdisciplinary treatment

Operative Treatment

1. Indications for surgery (neurogenic claudication, radiculopathy, cauda equina syndrome)
2. Surgical techniques (laminotomy, laminectomy, laminectomy with fusion)
3. Success rates/predictors of outcome
4. Failures (residual neurologic symptoms, epidural scar, arachnoiditis)
5. Complications (dural tears, cauda equina syndrome, pseudomeningocele)
6. Reintervention for failed surgery (e.g., revision decompression, spinal instability, pseudoarthrosis repair)

Follow-up

1. Addressing treatment failure issues (surgical and nonoperative)
2. Palliative care issues (e.g., opioid programs, interventional pain management [spinal cord stimulation, denervation, analgesic pumps])

MAJOR OUTCOMES CONSIDERED

Positive patient outcomes are primarily defined as functional and/or physiologic gains that can be objectively measured. Objective functional gains include, but are not limited to:

- Return to regular activities of daily living (work and/or recreation)
- Improvement in positional tolerances
- Motion, strength and endurance of the affected spinal region
- Improved physical efficiency
- Decrease health care utilization
- Avoidance of recurrences
- Consideration of subjective reports of pain and function using standardized and validated self-report instruments
- Sensitivity and specificity of diagnostic tests
- Side effects and complications of pharmacologic and operative interventions

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Task Force used a literature search/evaluation plus consensus method in development of the guidelines. The Phase I and II North American Spine Society/American Academy of Orthopaedic Surgeons (NASS/AAOS) algorithms, previously published state and national treatment guidelines and NASS Contemporary Concept papers were also reviewed.

In addition to the literature search, the Task Force relied heavily on previous work by the NASS/AAOS Spine Algorithm Task Force, the NASS Ad Hoc Committee on Diagnostic and Therapeutic Procedures, the Physician Advisory Committee on Low Back Pain Treatment Guidelines of the Oklahoma Workers´ Compensation Court and the Spine Treatment Guideline of the Texas Workers´ Compensation Commission. Additionally, the Guideline for Chiropractic Quality Assurance and Practice Parameters (Proceedings of the Mercy Center Consensus Conference) and the Department of Health and Human Services, Agency for Health Care Policy and Research Clinical Practice Guidelines Number 14, Acute Low Back Problems in Adults, were included for review.

All literature reviewed met the following criteria: must be available in the current collection of the National Library of Medicine; paper must have gone through peer review; study must have adequate sample size; paper must contain a description

of the materials and methods used; conclusions from the paper must be substantiated by the data within the paper; the topic of study must be relevant to the recommendation being referenced in the guidelines. In addition, state and national treatment guidelines and similar work by relevant parties were reviewed.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Subjective Review

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Task Force used a literature search/evaluation plus consensus method in development of the guidelines.

Because there are many instances in this field where it would be unethical to perform randomized controlled trials, where the literature was lacking, expert consensus was used to determine some recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The multidisciplinary work group and panel conducted multiple iterations of written review. Modifications (when supported by literature references) were then incorporated by the work group and reviewed by an internal peer review advisory panel.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

I. Initial Phase of Specialized Care

Time from Symptom Onset
This assumes the patient did not improve in Phase I (See the "Phase I Treatment Algorithm" in the original guideline document.)

In the absence of strong surgical indicators, this phase of specialty care may constitute the major therapeutic intervention over the first 6 to 12 weeks following symptom onset.

Duration
0 to 8 weeks.

Goal of Intervention
Symptom control to facilitate rapid recovery and return to normal occupational/social activities before deconditioning or psychosocial barriers occur.

Description
This intervention is generally performed in the acute phase following symptom onset or recurrence, when little or no deconditioning has resulted from inactivity. This phase of care may be used for any level of severity of symptoms, according to the clinical indicators. Successful treatment leading to maximum medical improvement (MMI) is accomplished in 60% to 80% of spinal disorders with this phase of care, generally requiring very limited intervention.

Clinical or Behavioral Indicators (may include, but not limited to):

- Brief history of acute injury with early positive response to treatment (i.e., early symptomatic relief)
- No urgent surgical indicators on physical examination (i.e., progressive neurologic deficit or incapacitating pain)
- Acute recurrence or exacerbation after prior episode
- Immediate post-operative patient

Assessments

History and physical examination, including neurologic evaluation. Physical and/or functional capacity evaluations may be necessary to assess work tolerance before intervention and return to work release.

Types of Intervention (if clinically indicated and not previously unsuccessful):

Pharmacologic Pain Control Methods

- Opioids
- Oral corticosteroids
- Muscle relaxants (tranquilizers)
- Hypnotics
- Nonsteroidal anti-inflammatory drugs

Nonpharmacologic Pain Control Methods

- Activity modification
- Manual therapy-soft tissue techniques
- Traction
- Bracing
- Passive modality procedures
- Injections (epidural steroid and facet joint, trigger point injections)

Education

- Back school
- Ergonomics instruction
- Home exercise

Therapeutic Exercise

- Positional exercises (various methods)
- Home exercise instruction
- Return to limited activity (with comparison to job and daily living demands)

Mental Health

- Pain and symptom control techniques
- Behavioral techniques

Expected Outcome

Return to normal occupational/social activities and/or maximum medical improvement.

Resumption of Activities of Daily Living

This initial phase of specialized care assumes a mild level of severity, allowing return to usual work and recreational activities within 0 to 8 weeks, with or without modified or transitional activity return.

Failure to Respond
Documented failure to respond at any time to treatment may require additional diagnostic tests and/or treatment consistent with greater level of severity.

II. Secondary Phase of Specialized Care

Time from Symptom Onset
Post-acute time frames since symptom onset, usually between 1 to 6 months following initial incident. May include recurrence or post-surgical care.

Duration
0 to 8 weeks beyond initial phase of specialized care.

Description
This intervention is the first stage of rehabilitation for those individuals who have not returned to productivity through the normal healing process. It is designed to facilitate return to productivity before chronic impairment. It is individualized, time-limited and of limited intensity. It is designed to prevent chronic impairment.

Goal of Intervention
Preventing progressive physical deconditioning and appearance of psychosocial barriers to functional recovery, employing a reactivation process, generally associated with the post-acute or early post-operative periods.

Clinical or Behavioral Indicators (may include, but not limited to):

- History of injury or disorder with partial response to early initial treatment (persistent symptoms and limitation of activities of daily living)
- Physical examination suggestive of early deconditioning (loss of motion and/or strength with limitation of activities of daily living)
- No urgent surgical indicators on physical examination (i.e., progressive neurologic deficit or incapacitating pain)
- Evidence of limited mental health/psychosocial barriers impeding progress

Assessments
The type of assessments utilized in this phase of treatment depend on the level of severity associated with the diagnosis. Physical and/or functional capacity evaluations may be necessary to assess work tolerance before intervention and return to work release. Mental health evaluation to identify psychosocial barriers or the need for behavioral pain management may be appropriate. Documentation is needed to substantiate the need for further diagnostic testing (imaging, electrodiagnostic studies [EDS], etc.)

Types of Intervention (if clinically indicated and not previously unsuccessful):

Medication Modification

- Decrease use of narcotics, tranquilizers
- Antidepressants (for analgesia, sedation, mood)

Nonpharmacologic Pain Control

- Progressive activity resumption
- Decreased use of passive modalities for pain control only
- Injection procedures (epidurals, facet joint, pars or selective nerve root blocks)
- Multidisciplinary consultation/referral as needed

Education

- Emphasis on post-acute issues
- Overcoming inactivity

Therapeutic Exercise

- Progressive strengthening
- Aerobic conditioning
- Functional reconditioning
- Concurrent home programs

Mental Health Intervention

- Pharmacologic intervention
- Behavioral techniques

Uni or Interdisciplinary Programs (limited intensity with consultative medical, educational, occupational and/or psychological assistance)

- Outpatient medical rehabilitation
- Work conditioning
- Work hardening

Expected Outcome
Return to normal occupational/social activities and/or maximum medical improvement (MMI).

Resumption of Activities of Daily Living
This secondary phase of specialized care is associated with a moderate level of severity consistent with the patient expected to be released to full activities or minimally modified/transitional activity resumption lasting no more than 3 months. Treatment response to initial and/or secondary interventions should result in nearly full functional level with the exception of possible limitations restricting some heavy job or recreational demands, even after completion of a transitional work return and achievement of MMI. (The health provider should assure the patient an opportunity to reach the highest possible functional level, eliminating all possible temporary impairment, before determining MMI.)

Failure to Respond
Documented failure to respond may require additional diagnostic tests and/or treatments consistent with greater severity. Consider referral for mental health evaluation/assessment.

III. Tertiary Phase of Specialized Care

Time from Symptom Onset
The chronic phase of symptoms and/or loss of function following symptom onset or recurrence beginning after an anticipated healing period, usually not before 3 to 6 months following symptom onset. Occasionally tertiary care may be indicated if a greater level of severity is identified in the post-acute phase of the condition.

Duration
0 to 10 weeks.

Goal of Intervention
To represent the final phase of non-operative or post-operative treatment for severe cases, with the goal of giving patients an opportunity to actively cooperate in programs designed to achieve return to productivity. Full return to work or recreational activities may not always be possible and may necessitate the introduction of vocational rehabilitation services following completion of medical rehabilitation.

Description
The tertiary phase of care involves medically directed interdisciplinary, individualized and intensive services designed for patients already demonstrating physical and psychosocial changes consistent with chronic pain and disability of marked severity. In general, differentiation from secondary treatment includes medical direction, intensity of services, severity of injury, individualized programmatic protocols with integration of physician, mental health and disability or pain management services and specificity of physical/psychosocial assessment, with all interdisciplinary team members.

Clinical or Behavioral Indicators (may include, but not limited to):

- Documented history of persistent failure to respond to non-operative and/or operative treatment, which surpasses the usual healing period of > 4 to 6 months post-injury and/or post-surgery, or special cases with severe mental health issues which last > 2 months without response to initial or secondary treatment
- History of significant psychosocial disturbance (i.e., substance abuse, affective disorders, psychiatric conditions)
- Inhibition of physical functioning producing failure to match physical capacities to daily living requirements, as evidenced by pain sensitivity, nonorganic signs, fear producing physical inhibition or limited response to reactivation treatment, as documented by quantitative physical and/or functional capacity testing
- Heavy or repetitive job demands with inability to match physical capacity to work requirement after presumed adequate treatment causing inability to sustain uninterrupted work or recreation. This

situation would be evidenced by a patient unable to transition to acceptable full or modified duty or significant episodes of recurrent lost time from work or recreation after presumed MMI. The inability to match the patient's skills to any available job may necessitate vocational rehabilitation following MMI
- Patients who cannot tolerate initial or secondary phases of care
- Psychiatric illness or mental health disturbance likely to preclude success in initial or secondary care designed for milder levels of severity

Assessments
Standard history and physical examination should be accompanied by mental health assessment, physical capacity evaluation of the injured region(s) or joint(s) and/or functional capacity evaluation of whole-body performance. The specific testing chosen and the need for serial assessments may be individualized to the specific patient or programmatic protocols, based on documentation of effective outcomes of return to work, lower risk of recurrent disability and decreased future medical utilization.

Types of Intervention (if clinically indicated and not previously unsuccessful):

Interdisciplinary Programs (medically directed, intensive, time-limited with all therapists on-site)

- Chronic pain management
- Functional restoration
- Pharmacologic interventions
- Behavioral techniques

Pharmacologic Pain Control

Further efforts to decrease use of habituating medication

Non-Pharmacologic Pain Control Techniques

- Injection procedures (to facilitate active treatment)
    - Epidural steroid injections
    - Facet joint injections
    - Selective nerve root blocks
- Limited passive modalities (to facilitate active treatment)

Mental Health Interventions

- Behavioral techniques
- Pharmacologic techniques

Expected Outcome
Should be the last remaining medical option before MMI.

Resumption of Activities of Daily Living
Tertiary care represents treatment for the marked level of severity, which would allow return to productivity within 2 to 4 months, with or without a transitional period of modified activity (not to exceed 4 months). Treatment response to tertiary interventions will ultimately allow return to full (or permanently modified) work. There will likely be some limitations restricting medium-to-heavy work or recreational performance, accompanied by some permanent impairment, but with the patient always able to reach maximum medical improvement following completion of surgical and/or tertiary non-operative interventions. (Non-compliance or abandonment of secondary or tertiary care [which requires active patient cooperation] result in maximum medical improvement by default.) Other outcomes include vocational rehabilitation or voluntary decision to discontinue work or recreational activities.

Failure to Respond
Documented failure to respond at any time to treatment may require additional diagnostic tests and/or treatment consistent with greater levels of severity. Consider mental health evaluation.

IV. Surgical Intervention

Time from Symptom Onset

- Unless surgery is emergent or urgent, it is best delayed 2 to 4 months for a trial of non-operative interventions
- Subsequent procedures for primary surgical failure will be determined by clinical findings

Duration
Time from primary surgical procedure to initiation of post-operative rehabilitation (or full activity resumption) depends on surgical procedure. The time to healing period ranges from 2 to 16 weeks for primary procedures and longer for secondary.

Goal of Intervention
Improvement of pathological condition. Facilitate post-operative rehabilitation to the highest possible functional outcome.

Clinical or Behavioral Indicators (may include, but not limited to):

- Documented history of failure to respond to initial and/or secondary treatment with symptoms suggestive of surgically treatable lesion (i.e., persistent leg pain, limitation of activities of daily living or perceived weakness)
- Physical examination findings consistent with surgically treatable lesion (i.e., positive straight leg raise, hypesthesia, weakness or loss of motion)
- Positive straight leg raise is less common in this population
- Structural diagnostic testing, (i.e., magnetic resonance imaging, computed tomography, myelogram) consistent with a surgically

treatable lesion noted on the above diagnostics. Surgery would not occur except on objective findings of structural defects

Expected Outcome

- Return to improved occupational/social activities and/or recreation
- Maximum medical improvement after appropriate post-operative care

Resumption of Activities of Daily Living

- Primary surgical intervention implies a level of severity, which should allow return to modified work within 6 to 12 weeks post-operatively based on job demands, usually after a postoperative rehabilitation intervention
- Subsequent procedures to primary surgery may require up to 6 months to resume activities of daily living
- There may be limitations restricting medium to heavy work or recreational demands accompanied by some permanent impairment

Failure to Respond
Documented failure to respond to treatment at any time may require additional diagnostic tests and/or treatment consistent with greater levels of severity. Failure to respond may indicate a need for mental health evaluation. Patients declining to participate in appropriate surgical intervention and/or alternative non-operative treatment requiring active cooperation, may be determined to have reached MMI by default.

V. Palliative Phase of Specialized Care

Time from Symptom Onset
This final phase of care begins after all reasonable treatments for spinal stenosis, both surgical and non-operative, have been attempted and/or have failed to bring about satisfactory abatement of symptoms or administrative MMI (see the section titled "General Guideline Principles and Terminology" in the original guideline document).

Duration

- Initial phase: 3 months
- Maintenance program: lifelong

Description
The palliative phase of specialized care may involve:

- Medical maintenance procedures to limit severity of recurrent episodes of pain/disability
- Additional diagnostic and surgical or non-operative interventions to address recurrent or secondary sequelae of treated initial SS
- Medical and/or nonmedical procedures specifically designed to ameliorate chronic pain or disability

Goal of Intervention
To palliate chronic pain, including efforts to resolve recurrent or secondary mechanical abnormalities after completing treatment for primary SS. Lifelong patient maintenance in a cost-effective structure at maximum functional capacity.

Clinical or Behavioral Indicators (may include, but not limited to):

- Documented history of persistent failure to respond to prior treatment for primary SS, which surpasses a medical end point
- Persistent or recurrent psychosocial or psychiatric disturbance associated with intractable pain and/or disability
- History of persistent or recurrent associated non-medical socioeconomic issues resulting in secondary gain disincentives to recovery (e.g., ongoing compensation-related litigation, private or federal long-term disability payments, other financial or health benefits tied to disability documentation)

Assessments
Initial program design to determine operative/non-operative/medical/behavioral interventions. Maintenance program established for lifelong cost-effective management. Includes mechanism for management of crisis as well as symptoms. Decreases utilization of emergency services.

Types of Intervention (if clinically indicated and not previously unsuccessful):

Medical Maintenance Procedures for Episodic Pain

- Medications: non-steroidal anti-inflammatory drugs (NSAIDs), psychotropic medications
- Reinstruction in fitness maintenance program, stretching, thermal modalities for self-care
- Reinstruction in relaxation, coping skills and stress management techniques
- Reinstruction in behavioral modification
- Injection procedures
- Limited passive modalities (e.g., manipulations)

Severe Recurrence or Episodes

- Trial or repeat of "refresher" secondary or tertiary phase of specialized care
- Special tests to predict outcome of surgical intervention (e.g., discography, diagnostic injections, response to spinal cord stimulation)
- Repeat surgical intervention with post-operative rehabilitation

Non-Medical Socioeconomic Interventions

- Vocational rehabilitation
- Resolution of injury-related permanency awards

- Evaluate effect of compensation (e.g., long-term disability, social security disability income [SSDI], health/welfare benefits) depending on disability documentation of persistent illness behaviors and projected therapeutic outcomes
- Evaluate effect of previous non-compliance or failure to cooperate with interventions requiring patient's active participation

Intractable Pain Suppression Procedures

- Transcutaneous electrical nerve stimulation (TENS)
- Spinal cord stimulation (SCS)
- Denervation procedures
- Analgesic pumps
- Chronic narcotic or other habituating medication

Expected Outcome

- Partial abatement of symptoms
- Partial return to societal productivity
- Minimize dependence on financial/health benefits requiring documentation on ongoing disability; maximize physical and functional capacities
- Return to best possible activities of daily living

CLINICAL ALGORITHM(S)

The original guideline contains algorithms for Universe of Adult Patients with Low Back Pain/Sciatica (ACUTE)--Phase I and Phase II and North American Spine Society Phase III for Multidisciplinary Spine Care Specialists.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate use of diagnostic tests, evaluation, treatment, and management of adults diagnosed with stenosis of the lumbar spine or adults whose chief complaint is neurogenic claudication without associated spondylolisthesis.
- Cost-effective health care
- Positive patient outcomes, such as:
    - Functional and/or physiologic gains:
        - Return to regular activities of daily living (work and/or recreation)
        - Improvement in positional tolerances

        - Improved motion, strength, and endurance of the affected spinal region
        - Improved physical efficiency
        - Decreased health care utilization
        - Avoidance of recurrences
    - Subjective reports of decreased pain and increased function using standardized and validated self-report instruments
    - Expedited, optimum, cost-effective functional recovery from spinal stenosis.
- Education of patients, insurance carriers, health care providers and other interested parties is critical to the appropriate treatment of spinal disorders. Education and communication between health care providers can lead to expedited review and precertification of care

POTENTIAL HARMS

- Diagnostic tests may have harmful side effects and may lead to false positive or false negative results. Medical decision may be made based on incorrect results.
- Disadvantages of myelography are the radiation dose, which exceeds that of CT scanning along, as well as the risk associated with an invasive procedure (headache, bleeding, infection, seizure and a possible anaphylactic reaction to the myelographic dye.
- All medications should be monitored for their known potential side effects and interactions and should, therefore, be used cautiously. Prescribing physicians should obtain a history of known allergies and prior and present medication (prescription and nonprescription) usage. All medications should be prescribed with strict instructions regarding dosing and duration guidelines.
- Opioids may cause physical or psychological dependence, although dependence is uncommon if used in a limited fashion.
- Non-steroidal anti-inflammatory drugs (NSAIDs): Administer cautiously in individuals with hypertension or gastrointestinal intolerance. Side effects and toxicity should be monitored during administration. There is no evidence that administration of NSAIDs is more efficacious than simple analgesics or acetaminophen in relieving symptoms in non-inflammatory conditions. Patients with a known allergy to aspirin should probably not take NSAIDs and other potential drug interactions should be considered.
- Muscle relaxants have the potential to produce dependency, create mental confusion, depression and abuse.
- Sedatives can cause a paradoxical reaction negating the use of the drugs.
- Antidepressants can cause dry mouth, sedation, weight gain, epigastric disturbance and impotence.
- Oral corticosteroids may cause sleeplessness, restlessness, gastrointestinal upset, palpitations, facial flushing, hyperpyrexia, electrolyte disturbances and hyperglycemia; should be used for relatively short duration to reduce potential for hypothalamic-pituitary suppression. This class of medications should be used very cautiously in an older population, with particular attention paid to concurrent medical conditions and medication usage.
- Anticonvulsants (Gabapentin) may cause somnolence, dizziness, fatigue and ataxia that frequently resolves within 2 weeks. Carbamazepine has a higher side effect profile.

- Surgical interventions pose risk of minor or serious complications as well as treatment failure. Refer to the original guideline for a complete discussion of surgical complications and issues related to treatment failure. Co-morbidities are frequently present in elderly patients with spinal stenosis. In these circumstances, the benefits and risks of surgical intervention are to be carefully weighed. If comorbidities are still likely to leave the patient disabled, then stenosis surgery is not likely to be worthwhile, even if surgical indications exist.

CONTRAINDICATIONS

CONTRAINDICATIONS

- There are absolute contraindications to performing magnetic resonance imaging (MRI). These include the presence in the patient of ferromagnetic cerebral aneurysm clips and ferromagnetic cochlear implants, cardiac pacemakers, dorsal column stimulator leads and foreign bodies in the eye orbits. Relative contraindications include pregnancy, transcutaneous nerve stimulators, severe claustrophobia and spinal implants which can distort the images.
- Non-steroidal anti-inflammatory drugs (NSAIDs) are relatively contraindicated in patients with renal insufficiency or pregnancy.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- This guideline does not represent a "standard of care."
- This guideline is not a fixed treatment protocol. It does, however, identify a normal course of treatment and provides options for medical and surgical intervention. The guideline is intended to reflect contemporary treatment concepts for symptomatic spinal stenosis. It is anticipated that there will be patients who will require less or more treatment than the average. It is also acknowledged that in atypical cases, treatment falling outside this guideline will sometimes be necessary. This guideline should not be seen as prescribing the type, frequency or duration of intervention. Treatment should be based on the individual patient´s need and doctor´s professional judgment.
- This guideline is designed to function as a guideline and should not be used as the sole reason for denial of treatment and services.
- This guideline is not intended to expand or restrict a health care provider´s scope of practice or to supersede applicable ethical standards or provisions of law.
- The clinical guideline and its algorithms should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific procedure or treatment is to be made by the physician in light of all circumstances presented by the patient and the needs and resources particular to the locality or institution.
- The clinical condition of the patient, as documented by the treating physician, will be the determining factor in placing the patient in the most appropriate phase of nonoperative care (Initial, secondary and tertiary). The patient may

move between these phases of care depending upon condition and treatment. The duration of treatment at any phase of care may be less or greater than recommended depending upon documentation. If treatment needs exceed recommended duration, additional documentation may be needed for extended care.

- Nonoperative treatment strategies described will be based upon the predominant symptom (ie, radicular vs. axial pain) rather than the specific type of spinal stenosis (ie, central, lateral recess or foraminal). However, because spinal stenosis is much more prevalent in the older population who may not be work productive, certain features of treatment may not apply as it might in the herniated disc group, specifically work readiness rehab.
- Comorbidities are frequently present in elderly patients with spinal stenosis. In these circumstances, the benefits and risks of surgical intervention are to be carefully weighed. If comorbidities are still likely to leave the patient disabled, then stenosis surgery is not likely to be worthwhile, even if surgical indications exist.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

North American Spine Society (NASS). Phase III clinical guidelines for multidisciplinary spine care specialists. Spinal stenosis version 1.0. LaGrange (IL): North American Spine Society (NASS); 2002. 91 p. [197 references]

ADAPTATION

The Phase III guideline incorporates and expands the basic spinal stenosis (SS) treatment algorithm developed by NASS and the American Academy of Orthopaedic Surgeons (AAOS) in Phase II Low Back Pain/Sciatica (Acute).

DATE RELEASED

2002

GUIDELINE DEVELOPER(S)

North American Spine Society - Medical Specialty Society

GUIDELINE DEVELOPER COMMENT

The North American Spine Society Task Force on Clinical Guidelines and its advisory panels are made up of North American Spine Society members and consulting health care professionals representing the multidisciplinary scope of the organization. Participants represent the specialties of orthopedic surgery, neurosurgery, physical medicine and rehabilitation, neurology, anesthesia, radiology, family medicine, psychology, rheumatology and psychiatry.

Explanation of different guideline phases -- purposes and target audiences: Phase I addresses issues faced by first contact physicians only in the first 4-6 weeks of evaluation and treatment. Phase II deals with management of patients not resolved in Phase I who are commonly referred to musculoskeletal specialists. Phase III targets multidisciplinary spine care specialists and refines and expands upon Phases I and II to address issues such as specific treatment time frames, definition of common practice terms, definition of end points for treatment, and treatment success or failure.

SOURCE(S) OF FUNDING

North American Spine Society (NASS)

GUIDELINE COMMITTEE

North American Spine Society (NASS) Task Force on Clinical Guidelines

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Financial disclosures are on file with the North American Spine Society and can be reviewed upon request.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the North American Spine Society (NASS), 22 Calendar Court, 2nd Floor, LaGrange, IL 60525; Telephone (708) 588-8080, Fax (708) 588-1080. An order form is available from the North American Spine Society Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following are available:

- Lumbar spinal stenosis.

  Electronic copies: Available from the North American Spine Society Web site

- Nonsteroidal anti-inflammatory drugs (NSAIDs).

  Electronic copies: Available from the North American Spine Society Web site

- Spinal injections.

  Electronic copies: Available from the North American Spine Society Web site

Print copies: Available from the North American Spine Society (NASS). Order forms can be found on the NASS Web site or the text for all patient education materials can be viewed at www.spine.org/fsp.cfm.

NGC STATUS

This NGC summary was completed by ECRI on July 9, 2003. The information was verified by the guideline developer on November 26, 2003. This summary was updated October 25, 2004.

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